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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/560,832	02/28/2007	Takeshi Kamata	050826	7411
23850 7590 10/15/2009 KRATZ, QUINTOS & HANSON, LLP 1420 K Street, N.W. Suite 400 WASHINGTON, DC 20005				
EXAMINER				
HILTON, ALBERT				
ART UNIT		PAPER NUMBER		
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/560,832

Applicant(s)

KAMATA ET AL.

Examiner

Albert Hilton

Art Unit

4171

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☒ Claim(s) 1-9 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-608/609)
Paper No(s)/Mail Date 11/03/2008, 12/15/2005
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. This is a first action on the merits. Claims 1-10 are pending.

Priority

2. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in parent Application No. 10560832, filed on 12/15/2005.

Specification

4. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Objections

5. Claims 1-9 are objected to because of the following informalities: the examiner suspects that the phrase "wherein between the first and second nozzle parts there is formed a step protruding from an inner surface of the first nozzle part toward the inside of the first nozzle part." in claim 1 was intended to read "wherein between the first and second nozzle parts there is formed a step protruding from an inner surface of the first nozzle part toward the inside of the second nozzle part." because it is not clear how the inside of the first surface protrudes into itself, and because the latter phrase more closely describes the invention disclosed in Fig. 3. For examination purposes, the phrase in question is assumed to read "wherein between the first and second nozzle parts there is formed a step protruding from an inner surface of the first nozzle part

toward the inside of the second nozzle part." Claims 2-9 are objected to as being dependent on claim 1. Appropriate correction is required.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-5 are rejected under 35 U.S.C. 102(b) as being anticipated by FORTIN (US Patent No. 2563231).

8. Regarding claim 1, FORTIN discloses a nozzle (Fig. 5-8) which spouts a liquid of a specific amount toward an outer surface comprising a receiver (**central passage 104**); a first nozzle part (**primary body member 100**) formed in a cylindrical shape for allowing the liquid to pass through that communicates with the receiver (**104**); a second nozzle part (**cap member 132**) formed in a cylindrical shape having an inner diameter (**boring 132**) smaller than that of the first nozzle part (**100**), the second part (**132**) being connected to the first nozzle part (**100**) and being disposed closer to the application object than the first part (**100**) (FORTIN: column 4, lines 25-63 and Fig. 5). Between the first (**100**) and second (**132**) nozzle parts in the nozzle of FORTIN there is a step protruding from an inner surface of the first nozzle part (**100**) toward the inside of the second nozzle part (**100**) (FORTIN: Fig. 5).

9. Regarding claims 2-4, the nozzle of FORTIN comprises a step formed flat in a direction at a right angle to the direction of liquid flow in the first (**primary body member 100**) and second (**cap member 132**) nozzle parts (FORTIN: Fig. 5). The nozzle of FORTIN comprises a step formed flat in a direction crossing the direction of liquid flow in the first (**100**) and second (**132**) nozzle parts and a direction crossing at right angles to the direction of liquid flow (FORTIN: Fig. 5). Furthermore, the nozzle of FORTIN comprises a step formed on the first and second parts (FORTIN: Fig. 5).
10. Regarding claim 5, the nozzle of FORTIN comprises a first part (**primary body member 100**) and a second part (**cap member 132**) that are connected coaxially to each other (FORTIN: Fig. 5).

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over FORTIN.
13. Regarding claims 6-8, FORTIN discloses a nozzle (Fig. 5-8) comprising a first (**primary body member 100**) and a second (**cap member 132**) part (FORTIN: column 4, lines 25-63 and Fig. 5). FORTIN does not specify the precise ratio of the length (L) of the first part (**100**) to the length (l) of the second (**132**) part. However, the use of a first part (**100**) of length L and a second part of length (**132**) such that $8 \leq L/l \leq 10$ represents

a mere change in shape and proportion that would not alter the function of the nozzle in a patentably distinct way (SEE MPEP 2141.01). One of ordinary skill in the art at the time of the invention would find it obvious that nozzles with a broad variety of different length ratios could be created. Similarly, while FORTIN does not disclose the precise ratio of the diameter (D) of the first part (100) to the diameter (d) of the second (132) part, one of ordinary skill in the art would have found it obvious that nozzles satisfying the condition $4 \leq D/d \leq 6$ could be used, as well as nozzles that simultaneously satisfy the conditions $8 \leq L/l \leq 10$ and $4 \leq D/d \leq 6$.

14. Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over FORTIN in light of RAU (US Patent No. 4897439).

15. Regarding claim 9, FORTIN does not specifically disclose what materials the second nozzle part is composed of. However, as RAU teaches, a variety of composite materials are used to fabricate apparatus used therein (RAU: column 1, lines 17-31). Further RAU teaches it is well-known in the art that polyether ketone (PEK) is a material with a variety of useful properties, such as high tensile strength and good resistance to wear, creep, and corrosion (RAU: column 7, lines 42-51 and column 2, lines 8-18). One of ordinary skill in the art at the time motivated by a need to improve the durability of the nozzle of FORTIN, would have found it obvious to manufacture said second nozzle part out of PEK, with the expected result that the resulting second nozzle part would be capable of dispensing liquids without corroding due to chemical exposure.

16. Regarding claim 10, FORTIN discloses a nozzle (Fig. 5-8) capable of spouting a liquid with a specific amount comprising a receiver (**central passage 104**); a first nozzle part (**primary body member 100**) formed in a cylindrical shape for allowing the liquid to pass through that communicates with the receiver (**104**); a second nozzle part (**cap member 132**) formed in a cylindrical shape that is connected to the first nozzle part (**100**) and is disposed closer to the application object than the first part (**100**) (FORTIN: column 4, lines 25-63 and Fig. 5). FORTIN does not specifically disclose what materials the second nozzle part (**132**) is composed of. However, as described in paragraph 15 above, one of ordinary skill in the art at the time of the invention, motivated by a need to improve the durability of the nozzle of FORTIN, would have found it obvious to manufacture said second nozzle part out of PEK, with the expected result that the resulting second nozzle part would be capable of dispensing liquids without corroding due to chemical exposure.

Conclusion

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Albert Hilton whose telephone number is (571)-270-5519. The examiner can normally be reached on Monday through Friday, with alternate Fridays off, 8:00-4:30 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Barbara Gilliam can be reached on 571-272-1330. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Albert Hilton
Examiner
Art Unit 4171

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